

CLAIMS:

1. Method for operating a boiler (6) of a device such as a coffee maker (1), which boiler (6) comprises a container (61) for containing water and a heating element (62) for heating the water to a predetermined temperature, the method comprising the following successive steps:
- 5 1) activating the heating element (62) of the boiler (6) during a predetermined length of time;
- 2) measuring at least one characteristic of the thermal behaviour displayed by the boiler (6) as a consequence of the activation of the heating element (62);
- 3) verifying whether the measured characteristic is in a range associated with
- 10 thermal behaviour of a boiler (6) filled with water or a range associated with thermal behaviour of an empty boiler (6);
- 4) only in case the measured characteristic appears to be in the range associated with thermal behaviour of an empty boiler (6), filling the container (61) of the boiler (6) with a predetermined quantity of water; and
- 15 5) activating the heating element (62) of the boiler (6) to heat the water in the container (61) of the boiler (6) to the predetermined temperature.
2. Method according to claim 2, wherein the third step comprises comparing the measured characteristic with a reference characteristic, which is between the range associated
- 20 with thermal behaviour of a boiler (6) filled with water and the range associated with thermal behaviour of an empty boiler (6), in order to determine whether the measured characteristic is at a side of the reference characteristic where the range associated with thermal behaviour of a boiler (6) filled with water is or a side of the reference characteristic where the range associated with thermal behaviour of an empty boiler (6) is.
- 25 3. Method according to claim 1 or 2, wherein the second step comprises measuring a temperature change in the boiler (6) at a measuring position which is located at a distance from the heating element (62), over a time interval having a predetermined length and a predetermined starting time with respect to a starting time of the operation of the

heating element (62); and wherein the third step comprises comparing a measured temperature change with a predetermined reference temperature change which is below a range of temperature changes associated with an empty boiler (6), and which is above a range of temperature changes associated with a boiler (6) filled with water.

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4. Method according to any of claims 1-3, wherein the device (1) comprises a pump (4) for pumping water to the boiler (6), and wherein the fourth step comprises activating the pump (4) during a predetermined length of time.

10 5. Method according to any of claims 1-4, wherein the second step is performed after the predetermined length of time during which the heating element (62) of the boiler (6) is activated has lapsed.

6. Method according to claim 5, wherein the second step is performed after a
15 temperature change of a filled boiler (6), measured over a predetermined time interval, has become smaller than a temperature change of an empty boiler (6), measured over the same time interval.

7. Method according to any of claims 1-6, wherein the fifth step is initiated
20 before the fourth step has finished.

8. Method according to any of claims 1-7, wherein the predetermined quantity of water with which the container (61) of the boiler (6) is filled during the fourth step is equal to or smaller than the volume of the container (61).

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9. Device such as a coffee maker (1), comprising a boiler (6) which comprises a container (61) for containing water and a heating element (62) for heating the water to a predetermined temperature, and a controller (10) which is programmed such as to perform the method for operating the boiler (6) according to any of claims 1-8.

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10. Device (1) according to claim 9, further comprising a temperature detector (11) for detecting a temperature inside the boiler (6), which temperature detector (11) is located at a distance from the heating element (62).